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TREES OF THE MORTON ARBORETUM (DECIDUOUS) XI

Liriodendron tulipifera (L.), Tulip Tree, Tulip Poplar

Terminal winter buds shaped like a duck's bill, tulip-like flowers and clean cut saddle shaped leaves with chopped off tips—these are ear marks of the Tulip Tree, impressive member of the Magnolia family widely admired for its stately beauty and highly regarded by forester and lumberman alike.

Fossil remains tell of the Tulip Tree's once wide distribution throughout the world, but during the ice age all but two species were exterminated, the one native of Eastern United States (Massachusetts to southern Michigan and southward to central Illinois, Florida and Mississippi) and a counterpart in central China, *Liriodendron chinense*. The native form has the distinction of being one of the tallest deciduous trees found in Eastern United States, where mature specimens 150-190 feet high with trunk diameters up to 8 or 10 feet are on record. Eighty to 100 foot trees are more usual, however. Developing magnificent straight boles, they are a delight to the forester. Trees growing in the open are low branched, with a uniform cone shaped crown, but in the forest the columnar trunks rise majestically free of branch for much of their length, topped by an oblong headed crown.

Although the Tulip Tree adapts itself to soils of various types, one which is deep, moist and yet well drained is most ideal. These conditions produce the prized 'Yellow Poplar' of the forester as distinguished from the more difficult to work 'White Poplar', the product of drier sandy or gravelly soils.

Regardless of habitat, however, certain features of the tree remain constant, the grayish brown, close fitting, deeply furrowed bark, the smooth brown aromatic twigs, the dark purplish winter buds covered with a whitish bloom, the unique blunt pointed leaves and the unusual flowers and fruit. From the time they come out of the bud neatly folded along the midrib, the leaves are of interest. Their peculiar outline has already been mentioned (squarish with four pointed lobes) and they are of sufficient size (5 to 6 inches long and wide) to be pleasing in texture. Their coloring is medium green with shiny upper surfaces, lighter lower ones and in autumn they change to pure gold. Long petioles, angled like

those of the poplars, permit a fluttering motion of the blades in the wind, adding the liveliness of movement to the tree's charm.

To look down upon the flowers of the Tulip Tree in early June is the best way to see one of the tree's prettiest sights, the $1\frac{1}{2}$ to 2 inch six-petalled greenish yellow tulips marked near the base with conspicuous orange blotches. The latter serve as an enticement to bees. At the centers of the flowers are clustered numerous stamens with large yellow anthers and pistils imbricated around a central axis. These change from green to light brown, eventually developing into erect cone-like fruits made up of the numerous overlapping dry winged samaras containing the seeds. They start ripening in September and October and are dispersed by the wind. The empty axis of the cone remains on the tree throughout the winter, however, still upturned and decorative.

One of the largest Tulip Trees in the Arboretum is the specimen at the rear of the Arboretum Center Building, on the west side of the service drive. Other specimens will be found south of Cedar Point, along Oakwood and Edgewood Drives as well as in various other locations throughout the grounds.

Magnolia acuminata (L.), Cucumber Tree

Elongated pale green fruit is responsible for the common name of the Cucumber Tree, hardiest of the native Magnolias and the tallest growing species in the Arboretum collection. Although its natural range extends from western New York State and southern Ontario to Illinois and Arkansas and southward along the mountains to northern Georgia, it is hardly beyond these limits, being cultivated in northern Illinois, southern Wisconsin and other borderline areas. And, in spite of the fact that one finds it in the wild mostly in rich woods along streams, cultivated specimens have shown its tolerance of drier, rockier situations.

As in the case of the Tulip Tree, local circumstances determine the Cucumber Tree's shape, height and habit of growth. Under forest conditions where competition must be met it grows tall and straight, sometimes to 100 feet, and bare of branch for two-thirds of its height. In the open, however, where development is unrestricted it branches low, assuming an even conical outline. Sixty feet is its usual height. With age it broadens, developing long sweeping branches which often touch the ground. Trunk diameters sometimes reach 3 or 4 feet.

Bold, coarse textured leaves are the most prominent feature of this Magnolia, leaves which may measure 6 to 10 inches in length and up to 5 or 6 in width. They are oval shaped, with rather sharp tips and rounded or acute bases, deep green in color with lighter undersurfaces and of smooth leathery texture. One and a half or two inch petioles attach them to the stout twigs necessary to support their weight. The new branchlets are greenish brown or gray and smooth; the older rougher and more warty. Whatever the season one notices the sharp pointed silky terminal buds which are about double the size of the lateral ones.

Flowering time is early in June, but inasmuch as the greenish yellow blossoms are neither conspicuous nor sweet scented, they frequently escape notice. Three to four inches across, cup shaped and six petalled, they would, if more colorful, be quite attractive. As it is the fruit far exceeds

them in showiness. The 2 to 3 inch contorted cucumber-like shells are light green at first, becoming pinkish as they ripen. Flattened orange red seeds are later released from their various pockets or sacs, hanging for a time on long white threads. Birds relish them.

Like that of the Tulip Tree, the bark of this Magnolia is grayish and evenly furrowed. The ridges are closer together and more shallow, however.

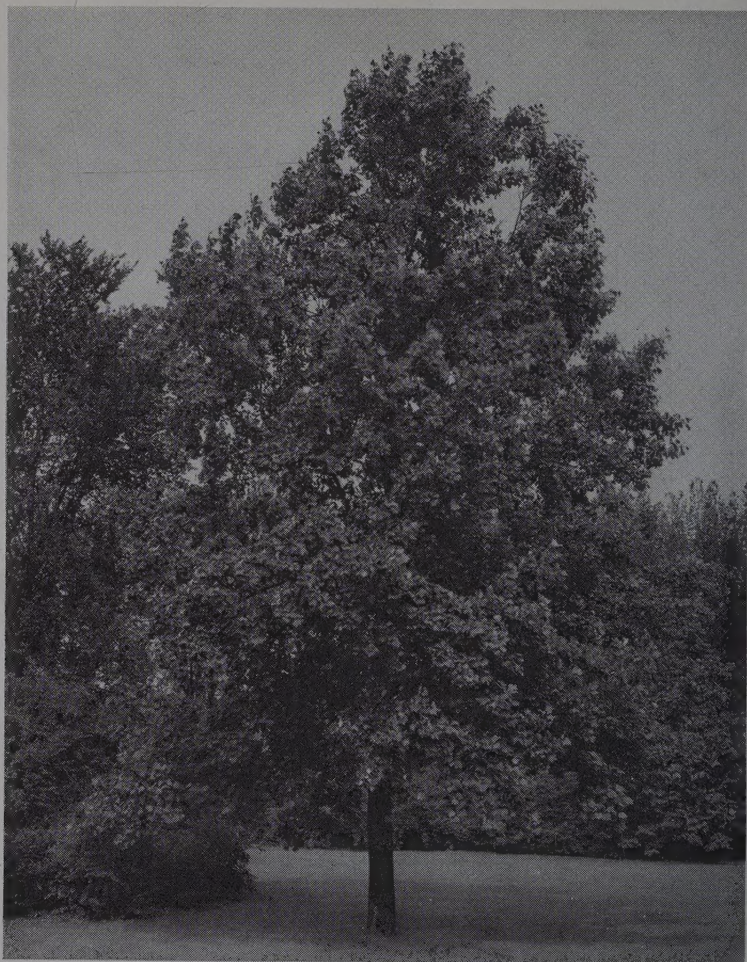
As a lawn specimen the Cucumber Tree is outstanding, both because of its pyramidal symmetry and by reason of the striking contrast its bold foliage affords with that of our more familiar trees. It is a moderate grower and not subject to pests.

The two finest Cucumber Trees in the Arboretum are in Sargents Glade along the path leading southward from the Thornhill Building.

E. L. Kammerer



Magnolia acuminata (L.), Cucumber Tree



Liriodendron tulipifera (L.), Tulip Tree

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